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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,045	01/18/2004	Matthew G. Lopez	200208186-1	8485

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EXAMINER

NGUYEN, LAMSON D

ART UNIT PAPER NUMBER

2861

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/760,045

Applicant(s)

LOPEZ ET AL.

Examiner

Lamson D. Nguyen

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 11-29 is/are rejected.
- 7) ☒ Claim(s) 7-10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
- Paper No(s)/Mail Date 08/29/05.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-4, 11, 13-19, and 21-23 are rejected under 35 U.S.C. 102(a) as being anticipated by Bhaskar (EP 1292117A1).

Bhaskar (Applicant's Admitted Prior Art) teaches a calibrating method comprising:

Claim 1:

- determining a plurality of calibration factors of a fluid-ejection mechanism capable of ejecting a plurality of differently colored fluids (column 4, lines 42-50, figure 3 teach a plurality of color swatches formed from ink of one or more pens of different colors such as yellow, cyan, magenta, and the volumes or, calibration factors, from cyan and magenta are varied in each of the color swatches)
- adjusting an energy used to eject fluid for each of at least one of the plurality of fluid colors based on the plurality of calibration factors so that fluid drop

ejections of the plurality of fluid colors yield drop masses having a consistent ratio (column 5, lines 1-15 teach adjusting amount of cyan and magenta to best match the background color, thus inherently teach energy needed to print ink drops of cyan and magenta)

Claim 2:

- outputting a plurality of multiple-color fluid targets via fluid ejection, each multiple-color fluid target having a different combination of a plurality of fluid colors (figure 3; column 4, lines 42-52 teach test patches made of different colored inks)
- determining a most color-neutral target of the plurality of multiple-color fluid targets, such that the energy used to eject fluid for each of the at least one of the plurality of fluid colors is adjusted based on the most color-neutral target (column 5, lines 1-19)

Claim 3:

- outputting the plurality of multiple-color fluid targets via fluid ejection comprises varying an energy used to eject fluid drops of each of the fluid colors of each multiple-color fluid target (column 5, lines 1-19 teach depending on where the patches are from the reference or center swatch, the ejecting of cyan or magenta varies, thus inherently teaches varied ejection energy)

Claim 4:

- wherein adjusting the energy used to eject the fluid for each of the at least one of the plurality of fluid colors comprises determining the energy used to eject the fluid for each of the plurality of fluid colors of the plurality of fluid colors of the most neutral color-neutral target (column 5, lines 1-19 teach depending on where the patches are from the reference or center swatch, the ejecting of cyan or magenta varies, thus inherently teaches varied ejection energy and adjusting to the desired energy)

Claim 11:

- scanning each of the plurality of multiple-color fluid targets to determine a chroma value of each of the plurality of fluid targets (column 6, lines 20-45); and selecting the most color neutral target as one of the plurality of multiple-color fluid targets having a minimum chroma value (column 6, lines 20-45)

Claim 13:

- a plurality of inkjet printheads, each printhead capable of ejecting a differently colored ink as one of the plurality of different color fluids (column 4, lines 45-50)

Claim 14:

- causing a fluid ejection mechanism to output a plurality of multiple-color fluid targets onto media, each multiple color fluid target having a different combination of a plurality of fluid colors, an energy used to eject fluid drops of each of the plurality of fluid colors of each multiple-color fluid target being varied (column 4, lines 42-50, figure 3 teach a plurality of color swatches formed from ink of one or more pens of different colors such as yellow, cyan, magenta, and the volumes or, calibration factors, from cyan and magenta are varied in each of the color swatches)
- causing a scanning mechanism to scan each of the plurality of multiple-color fluid targets to determine a chroma value of each of the plurality of multiple-color fluid targets (column 6, lines 20-45)
- adjusting an energy used to eject fluid for each of the fluid colors based on the energy used to eject the fluid for each of the plurality of fluid colors of one of the plurality of multiple-color fluid targets having a minimum chroma value (column 5, lines 1-15 teach adjusting amount of cyan and magenta to best match the background color, thus inherently teach energy needed to print ink drops of cyan and magenta)

Claims 15, 19, 21:

- a fluid ejection mechanism capable of ejecting a plurality of differently colored fluids onto a media (figure 3)
- a sensing mechanism capable of sensing at least a chroma value of different parts of the media (column 6, lines 20-45; figure 4); and,
- a controller to cause the ejection mechanism to output a plurality of multiple-color fluid targets onto the media, to cause the sensing mechanism to sense the chroma value of the targets and to adjust an energy used to eject each of the fluids based on one of the targets having a minimum chroma value (column 5, lines 1-15 teach adjusting amount of cyan and magenta to best match the background color, thus inherently teach energy needed to print ink drops of cyan and magenta)

Claims 16,17, 22, 23:

- the ejection mechanism comprises a plurality of inkjet printheads, each inkjet printhead capable of ejecting different color inks of cyan, magenta, and yellow (column 2, lines 43-45)

Claim 18:

- an optical sensor capable of sensing a luminance value, a hue value, and the chroma value of different parts of the medium (column 6, lines 20-45)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhaskar in view of Sekiya et al. (5,610,637).

Bhaskar teaches all claimed features of the invention with the exception of varying a number of fluid drops ejected of each of the plurality of fluid colors of each multiple-color fluid target.

It is well-known in the art to vary number of ink drops to achieve a certain density or color tone. Sekiya teaches varying a number of ink droplets by adjusting applied energy to achieve a certain ink size which corresponds to ink density or ink tone (figure 3, figure 7b).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the invention of Bhaskar to incorporate the teaching of varied number of ink drops taught by Sekiya for the purpose of achieving a desired ink density.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bhaskar in view of Hermanson (5,581,284).

Bhaskar teaches test patches made of three colored inks of cyan, magenta, and yellow. Then, a patch that best matches the black back ground which is the reference and is designated as the reference patch from which the other patches are adjusted. The other patches are then adjusted by adjusting amount of inks contributing to that patch (column 5, lines 1-15)

Bhaskar however does not teach that the fluids of the test patches are adjusted so that the fluid colors yield substantially identical fluid drop masses.

It is well-known in the art to eject three identical ink drops of cyan, yellow, and magenta to achieve a near black or processed black drop as taught by Hermanson (figures 3-6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the invention of Bhaskar to incorporate the teaching of ejecting cyan, magenta, and yellow dots to a pixel to create a black ink drops.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bhaskar in view of Sekiya et al. (5,610,637).

Bhaskar teaches all claimed features of the invention with the exception of varying a number of fluid drops ejected of each of the plurality of fluid colors of each multiple-color fluid target.

It is well-known in the art to vary number of ink drops to achieve a certain density or color tone. Sekiya teaches varying a number of ink droplets by adjusting applied energy to achieve a certain ink size which corresponds to ink density or ink tone (figure 3, figure 7b).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the invention of Bhaskar to incorporate the teaching of varied number of ink drops taught by Sekiya for the purpose of achieving a desired ink density.

Claims 24—29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhaskar in view of Neese et al. (6,302,511).

Bhaskar teaches an image forming device comprising:

Claims 24, 28:

- a fluid ejection assembly capable of ejecting a plurality of different colored fluids onto a media and sensing at least a chroma value of different parts of the media (figure 3; column 6, lines 20-45; figure 4)
- a controller to cause the ejection assembly to output a plurality of multiple fluid targets onto the media and to sense the chroma value of each target, the controller also to adjust an energy used to eject each of the colored fluids based on one of the targets having a minimum chroma value (column 5, lines 1-15 teach adjusting amount of cyan and magenta to best match the

background color, thus inherently teach energy needed to print ink drops of cyan and magenta)

Claims 25, 29:

- a plurality of inkjet heads, each head capable of ejecting a different color ink (column 2, lines 42-45)
- an optical sensor capable of sensing a luminance value, a hue value, and a chroma value of different parts of the media (column 6, lines 20-45)

Claim 26:

- an energy used to eject fluid drops of each of the different color fluids varies over the plurality of targets (column 5, lines 1-20)

However, Bhaskar does not teach a means to adjace the media. It is well-known in the art to have a medium advance means as taught by Neese (paper motor \$ 63)

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the invention of Bhaskar to incorporate the teaching of a paper medium as taught by Neese et al for the purpose of advancing medium to complete a printing swath).

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bhaskar in view of Neese as applied to claim 24 above, and further in view of Sekiya.

Bhaskar in view of Neese teaches all claimed features of the invention except a number of ink drops of each of the different color inks over the plurality of multiple-color fluid targets is varied.

It is well-known in the art to vary number of ink drops to achieve a certain density or color tone. Sekiya teaches varying a number of ink droplets by adjusting applied energy to achieve a certain ink size which corresponds to ink density or ink tone (figure 3, figure 7b).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the invention of Bhaskar in view of Neese to incorporate the teaching of varied number of ink drops taught by Sekiya for the purpose of achieving a desired ink density.

Allowable Subject Matter

Claims 7-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lamson D. Nguyen whose telephone number is 571-272-2259. The examiner can normally be reached on 8-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Talbott can be reached on 571-272-1934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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